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- (71) Applicants (for all designated States except US): GENOMINE, INC. [KR/KR]; Vneture Bldg 306 Pohang Techno Park, Pohang, Kyungbuk 790-784 (KR). KRICT(Korea Research Institute of Chemical Technology) [KR/KR]; 100 Jang-dong, Yusong, Taejon 305-600 (KR).
- (72) Inventors; and  
(75) Inventors/Applicants (for US only): LEE, Dong-hee [KR/KR]; Bando-mansion 410, 252-1 Choeup-dong, Busanjin-gu, Busan 614-871 (KR). KIM, Tae-hoon [KR/KR]; 264-8 Bugok-dong, Geumjeong-gu, Busan 609-320 (KR). HWANG, In-taek [KR/KR]; 115-303 Hanbit Apt. Eoeun-dong, Yuseong-gu, Daejeon 305-755 (KR). CHO, Kwang-yun [KR/KR]; 383-21 Doryong-dong, Yuseong-gu, Daejeon 305-340 (KR).
- (74) Agents: KIM, Dong-jin et al.; Marcopolo Bldg 3F, 720-20 Yeoksam-dong, Kangnam-gu, Seoul 135-080 (KR).
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[Continued on next page]

(54) Title: POLYPEPTIDE PARTICIPATING IN PYRIDOXINE BIOSYNTHESIS, A POLYNUCLEOTIDE CODING THE POLYPEPTIDE AND THOSE USES

At5g10410 -----MEG--TGVVAVYNGAITEAK--KSPFSVKVGLAQMLRGGVIMDVVNAEQARIAEE 52  
At2g38230 -----MAG--TGVVAVYGEAMTETKQKSPFSVKVGLAQMLRGGVIMDVVNAEQARIAEE 53  
At3g16050 MADQAMTDQDQSAVTLYSGTAITDAKKNHPSVKVGLAQMLRGGVIMDVVNAEQARIAEE 60  
snz3 -----MS-----EFKVKTLGLAQMLRGGVIMDVVTPAQIAIAER 33  
snz2 -----MS-----EFKVKTLGLAQMLRGGVIMDVVTPAQIAIAER 33  
snz1 -----MTG-----EDFKIKSGLAQMLRGGVIMDVVTPAQIAIAEK 35  
\* \* : \* \* \* \* : \* \* \* \* : \* \* : \* \* : \* \* \*

At5g10410 AGACAVMALERVADIRAGGGVARMSPDPMIKEIKNAVITIPVMAKARIGHFVEAQILEAI 112  
At2g38230 AGACAVMALERVADIRAGGGVARMSPDPMIKEIKNAVITIPVMAKARIGHFVEAQILEAI 113  
At3g16050 AGACSVIYSD----PVRSGGVRRMPDPVLKEVRAVSPVMAKARIGHFVEAQILESL 116  
snz3 AGACAVMALERIPADMRKSGGVCRMSDPRIKEIMEAVSIPVMAKVRIGHFVEAQILEEL 93  
snz2 AGACAVMALERIPADMRKSGGVCRMSDPRIKEIMEAVSIPVMAKVRIGHFVEAQILEEL 95  
snz1 SGACAVMALESIPADMRKSGGVCRMSDPKMIKIDIMNSVSIPIVMAKVRIGHFVEAQILEAL 93  
: \* \* \* : \* : : \* \* \* \* \* : \* \* : \* \* : \* \* : \* \* : \* \* : \* \* : \* \* : \* \* :

At5g10410 GIDVIDESEVLTLADEDHINKHNFRIPFVCGCRNLGEALRRIREGAAMIRTKG-EAGTG 171  
At2g38230 GVDYVDESEVLTLADEDHINKHNFRIPFVCGCRNLGEALRRIREGAAMIRTKG-EAGTG 172  
At3g16050 AVDYIDSEIISVADDHDFINKHNFRSPFICGCRDTGEALRRIREGAAMIRIQQDLTATG 176  
snz3 QVDYIDSEVLTPADWTHIEKHNFKVPFVCGAKDLGEALRRIREGAAMIRTKG-EAGTG 152  
snz2 QVDYIDSEVLTPADWTHIEKHNFKVPFVCGAKDLGEALRRIREGAAMIRTKG-EAGTG 152  
snz1 EVDYIDSEVLTPADWTHIEKDKFKVPFVCGAKDLGEALRRIREGAAMIRTKG-EAGTG 154  
: \* \* \* \* \* : \* \* : \* \* : \* \* : \* \* : \* \* : \* \* : \* \* : \* \* : \* \* : \* \* :

At5g10410 NIEEAVRHVRSVNGDIRVLRN--MDDDEVFTFAKKLAAPYDLVMQTKQLGRLPVVFQFAAG 229  
At2g38230 NVVEAVRHVRSVNGAIRLLRS--MDDDEVFTYAKKIAAPYDLVVQTKELGRLPVVFQFAAG 230  
At3g16050 NIAETVKNVRSVMGEVRLN--MDDDEVFTFAKKISAPYDLVAGTKOMGRVPVVFQFASG 234  
snz3 DVSEAVKHITIKAEIQYKKNLKTESDFAAKATELRVPVDDLKTTLSGKLPVNVFAAG 212  
snz2 DVSEAVKHITIKAEIQYKKNLKTESDFAAKATELRVPVDDLKTTLSGKLPVNVFAAG 212  
snz1 DVSEAVKHIRRITEEIKACQQ-LKSEDDIAKVAEMRVPVSLKDVLEKGLPVPVNVFAAG 213  
: \* \* : \* : : \* \* : \* : \* : \* : \* : \* : \* \* : \* \* : \* \* : \* \* : \* \* : \* \* :

At5g10410 GVATPADAALLMOLGCDGVFVSGIFKSSDPARRARAIQVATHYSDPEMLVEVSCGLGE 289  
At2g38230 GVATPADAALLMOLGCDGVFVSGIFKSSDPVRAKAIQVATNYRDAAVLAEVSCGLGE 290  
At3g16050 GITTTPADAALLMOLGCDGVFVSGIFKSSDPDFPKKLRSIQVAVQHYNDPHVLAEMSSGLEN 294  
snz3 GVATPADAALLMOLGCEGVFVSGIFKSSDPEKLACAIVEATTHYDNPAKLLQVSSDLGD 272  
snz2 GVATPADAALLMOLGCEGVFVSGIFKSSDPEKLACAIVEATTHYDNPAKLLQVSSDLGD 272  
snz1 GVATPADAALLMOLGCDGVFVSGIFKSSPNVRLATAVVEATTHYDNPAKLLQVSSDLGE 273  
\* : \* \* \* \* : \* \* : \* \* : \* \* : \* \* : \* \* : \* \* : \* \* : \* \* : \* \* : \* \* :

At5g10410 AMVGINLNDKVERFANRSE----- 309  
At2g38230 AMVGLNLD--KVERFASRSE----- 309  
At3g16050 AMESLNVGRDRIQDFGQGSV----- 314  
snz3 LMGGISIQSINEAGGKNGARLSEIGW 298  
snz2 LMGGISIQSINEAGGKNGARLSEIGW 298  
snz1 LMGGVSIIESISHAS--NGVRLSEIGW 297  
\* : \* : \*

(57) Abstract: The present invention discloses a polypeptide participating in pyridoxine biosynthesis, a polynucleotide coding the polypeptide and those uses. Particularly, this present invention discloses a polypeptide participating in pyridoxine biosynthesis, a polynucleotide coding the polypeptide, a method for inducing plant growth inhibition, a method for screening a compound inducing plant growth inhibition, and composition for inducing plant growth inhibition which comprises the compound obtained by the screening method.

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